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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/361,803 | 07/27/1999 | MITSUHIRO KUNIEDA | 35.G2440 | 5976 |

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT PAPER NUMBER

1756

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/361,803 | KUNIEDA ET AL. | |
| | Examiner | Art Unit | |
| | Christopher RoDee | 1756 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11, 12 and 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 12, and 14-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 29 March 2004 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11, 12, 14-22 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant claims have been amended to specify the charge generation layer as "tending to accumulate excess charges upon irradiation with the semiconductor layer exposure light source". The claims have also been amended to state, "wherein the charge-transfer layer prevents the accumulation of the excess charges". Basis for this amendment

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appears to be based on the specification on pages 11 and 12, noting applicants' remarks on page 10 of the RCE filing.

Page 12 of the specification states, "One factor causing such phenomena is partial accumulation of excitons and charged carriers, which are generated by irradiation of short-wavelength light having high energy and are not consumed during the electrophotographic process." The specification also states, "accumulation of the excitons and carriers can be suppressed by electron transfer reaction with a charge transfer material which can suppress a change in potential and a memory phenomenon during repeated use and can form stable high-quality image."

Although the specification is specific in its disclosure of an accumulation of excitons and charged carriers, the claims are more general in their disclosure of the accumulation of excess charges. "Charges" appears to include more than just excitons and charged carriers, such as electrostatic surface charge. If charges is by definition only limited to excitons and charged carriers then applicants are requested to specifically state this on the record and provide any useful documentation to support such a position. The specification is also specific that the accumulation of charges is by an electron transfer reaction between the excitons and charged carriers and the charge transfer material. This is different from the claims where a any method of preventing accumulation is permitted.

The claims are broader in scope than the specification as filed and consequently contain new matter.

Parenthetically note that typographical error of the semiconductor "layer" rather than "laser" as apparently intended in these claims.

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The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 11, 12, and 14-24 are objected to under 35 U.S.C. 103(a) as being unpatentable over Pai et al in US Patent 6,026,102 in view of Organic Photoreceptors for Imaging Systems, to Borsenberger, pp. 330-338, and further in view of JP 01-84265, or Kawamorita et al. in US Patent 5,202,214, or Kovacs in US Patent 5,373,313.

This rejection was set forth in the last Office action. The references are relied upon for the reasons given previously and the reasons that follow. New claims 23 and 24 are included in this rejection because they have a similar scope as claims 14 and 19, as previously presented and discussed. In this regard, note that the amine given by the formula in column 12, lines 35+ meets the requirements of the claimed formula (1) when Ar and Ar' are phenyl and Z is phenylene. The remaining Ar-N-Ar' group attached to the phenylene would be permitted in the claims when the claimed Ar groups are "substituted". The references are therefore applicable to the claims because Pai has the requisite charge transfer material in the photosensitive member and the art as a whole suggests all other features of the claimed invention for the reasons of record.

Applicants traverse this rejection because Pai does not disclose the newly claimed capability of the charge generation layer and charge transport layer. As discussed above, the charge generation layer now has the capability of tending to accumulate excess charges upon irradiation with the semiconductor laser exposure light source while the charge-transfer layer prevents the accumulation of the excess charges. Applicants take the position that the art fails to disclose these capabilities of the claimed layers.

The Examiner has carefully considered applicants' remarks in light of the claim amendments. Although the art does not explicitly disclose a charge generation layer tending to accumulate excess charges upon irradiation with the semiconductor laser exposure light source, this appears to be a function of the charge generation material located in the charge generation layer. Specific materials discussed for the charge generation material of the instant claims includes those enumerated on page 9 of the specification. These materials include perylene charge generation materials and are disclosed on pages 11 and 12 as giving the charge accumulation property now claimed for exposure in the specified wavelength. Borsenberger discloses specific perylene charge generation materials, as discussed in the Office action of 16 May 2000. There is, based on the disclosure in the specification (e.g., pages 9, 11 and 12), sufficient reason to believe that the perylene charge generation material would inherently have a tendency to accumulate charges in the charge generation layer. Borsenberger is properly combined with Pai for the reasons of record. Thus, the artisan would expect Borsenberger's perylene charge generation material to have the properties specified in the amended claims when placed in the charge generation layer of Pai.

Similarly, Pai discloses charge transport materials that fall within the scope of the charge transport materials of the formulae (1) through (4) for the reasons of record. These prior art charge transport materials would be expected to prevent the accumulation of excess charges (e.g., excitons and charge carriers) in the charge transfer layer because they are disclosed by the specification as providing this function. See specification pages 12-18.

The newly recited charge characteristics are seen, based on the specification disclosure, as being inherently present in the disclosure charge generation and charge transport materials. No evidence has been provided to show that these properties are not inherently present in the prior art materials.

The Examiner notes applicants' remarks that the art fails to address the problems of the instant inventors (e.g., Pai fails to disclose accumulation of charges: response p. 9), but there is no requirement that the art solve the same problem as the inventor. The references are combinable for the reasons given in the Office action of 16 May 2000, page 9. Specifically, Borsenberger discloses specific perylenes having sensitivity in the requisite range of Pai (e.g., 400 to 500 nm). Based on the totality of the art, there is sufficient reason to combine the references in the manner proposed, even if a different problem is solved from that faced by the inventors. As discussed in MPEP 2144, "The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. In re Linter, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972) ...; In re Dillon, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990), cert. denied, 500 U.S. 904 (1991)." Also, see the remarks presented in the last Office action.

Because there is ample reason to use the perylenes of Borsenberger in the invention of Pai, because the newly recited characteristics of the charge generation and charge transport layer appear to be functions of the respective charge generation material and charge transport material, and because the same charge generation material and charge transport material are disclosed by the references, the references in combination are seen as discussing each and every limitation of the claimed invention and are seen as motivating the combination rejection.

The other supporting references remain applicable for the reasons of record, particularly for their disclosure of semiconductor lasers that generate a wavelength in the requisite range.

The rejection is maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most work days from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
27 April 2004



**CHRISTOPHER RODEE
PRIMARY EXAMINER**